

Patents

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:

Ylitalo et al.

Serial No.: 09/911,279

Filed: July 23, 2001

Group Art Unit: 1711

Examiner: S. Berman

For: INK JET INK COMPOSITIONS

| CERTIFICATE OF MAILING | |
|---|------------------------------|
| I hereby certify that this correspondence is being deposited with the United States Postal Service as First Class Mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on May 12, 2004 . | |
| Date <u>May 12, 2004</u> | Signature <u>[Signature]</u> |

REPLY TO EXAMINER'S ANSWER

Board of Patent Appeals and Interferences
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

RECEIVED
729 MAY 17 PM 2:37
BOARD OF PATENT APPEALS
AND INTERFERENCES

This is a reply to the Examiner's Answer mailed on March 12, 2004. This Reply is being filed in triplicate. A Request for Oral Hearing is filed herewith.

ISSUES REMAINING ON APPEAL

As amended in the March 12, 2004 Examiner's Answer, the following issues remain on appeal:

- 1) Whether claims 1-13, 18-21, 23 and 26-30 are unpatentable under 35 U.S.C. §103(a) in view of U.S. Patent No. 5,852,075 to Held (hereinafter, "Held") in combination with International Publication No. WO 01/30873 to Savu et al. (hereinafter, "Savu");
- 2) Whether claims 1-17, 19-29 and 33 are unpatentable under 35 U.S.C. §103(a) in view of U.S. Patent No. 6,114,406 to Caiger et al. (hereinafter, "Caiger") in combination with Savu; and

RECEIVED

MAY 19 2004

TC 1700

3) Whether claims 31-32 are unpatentable under 35 U.S.C. §103(a) in view of Held, or Caiger in combination with Savu, and further in view of U.S. Patent No. 6,113,679 to Adkins et al. (hereinafter, "Adkins").

GROUPING OF CLAIMS

Appellant respectfully disagrees with Examiner Berman regarding the Grouping of Claims. Appellants specifically stated on page 12 of the Appeal Brief:

For the purpose of this Appeal, rejected claims 1-33 do not stand or fall together. Claim 1-33 are separately patentable for at least the reasons given below in the "Arguments" section.

Each of claims 1-33 do not stand or fall together for at least the reasons given throughout the "Arguments" section of Appellant's January 09, 2004 Appeal Brief. Specific arguments relating to claims 1-33 may be found in at least the following locations of the Appeal Brief as shown in the Table below:

| Location In January 09, 2004 Appeal Brief | Claim(s) |
|--|---------------------------|
| page 15, line 19 to page 16, line 16; page 17, line 15 to page 18, line 18; page 22, line 31 to page 23, line 12; page 24, lines 21-30 | 1 |
| page 16, lines 16-19 | 2-13, 18-21, 23 and 26-30 |
| page 16, lines 20-27 | 21, 23 and 30 |
| page 18, lines 18-21 | 2-13, 18-23 and 26-30 |
| page 18, lines 22-29 | 21 and 30 |
| page 21, lines 9-24 | 1 and 33 |
| page 21, lines 24-26 | 2-17 and 19-29 |
| page 21, line 27 to page 22, line 2 | 21 and 29 |
| page 23, lines 12-14 | 2-13, 15-23 and 26-30 |
| page 23, lines 15-29; and page 25, lines 8-15 | 15-17, 21 and 30 |
| page 24, lines 31-33 | 33 |
| page 25, lines 4-6 | 2-13 and 15-30 |
| page 26, lines 1-33 | 31-32 |

As shown in the Table above, specific arguments have been made in Appellants' Appeal Brief that at least claims 1, 15, 16, 17, 21, 23, 29, 30, 31, 32 and 33 do not stand or fall together.

For at least the reasons given above, Appellants respectfully submit that at least claims 1, 15, 16, 17, 21, 23, 29, 30, 31, 32 and 33 do not stand or fall together.

ARGUMENTS OF APPELLANTS

As discussed in Appellants' January 09, 2004 Appeal Brief, Appellants were the first to discover that specific C4 fluorinated surfactants were suitable for use in and, moreover, desirably used in ink jet ink compositions. Prior to the present invention, there was no suggestion in the art of ink jet ink technology that would have lead one of ordinary skill in the art to use the specific C4 fluorinated surfactants disclosed in the present invention in ink jet ink compositions.

For the reasons given in Appellants' January 09, 2004 Appeal Brief, Appellants maintain that (1) there is no suggestion in the art of record to incorporate a C4 fluorinated surfactant into an ink jet ink composition; (2) one of ordinary skill in the art would not have sought out the teaching of Savu, which is not directed to the art of ink jet ink technology, given either of the teachings of Held or Caiger directed to ink jet ink compositions; and (3) the teaching of Savu actually teaches away from the proposed modification of the teachings of Held and Caiger as suggested by Examiner Berman given the desired foam-generating properties of the C4 fluorinated surfactants discussed in the teaching of Savu.

In response to the March 24, 2004 Examiner's Answer, Appellants provide the following supplemental comments.

Rejection of Claims 1-13, 18-21, 23 and 26-30 Under 35 U.S.C. §103(a) In View Of Held In Combination With Savu

In addition to the arguments made in Appellants' January 09, 2004 Appeal Brief regarding the rejection of claims 1-13, 18-21, 23 and 26-30 under 35 U.S.C. §103(a) in view of Held in combination with Savu, Appellants note that the teaching of Held relates to specific surfactant systems for use in ink jet ink compositions. The disclosed surfactant systems *consist essentially of* (i) at least one siloxane surfactant, and (ii) at least one fluorinated surfactant of the formula $[R(f)Q]_nA$ **wherein R(f) is a perfluoroalkyl group having 6 to 22 carbon atoms**, Q is a divalent bridging group, A is a water soluble group, and n is 1 or 2. (Emphasis added.)

The teaching of Held provides specific guidance to one of ordinary skill in the art as to the type of fluorinated surfactants that may be used in the disclosed surfactant systems of Held.

Throughout the disclosure of Held, Held makes it clear that the disclosed surfactant systems must contain specific fluorinated surfactants, which do not include C4 fluorinated surfactants as recited in Appellants' claims. See, for example, the following portions of the disclosure of Held:

- column 1, lines 42-62 (a mixture of surfactants *consisting essentially of* (i) at least one siloxane surfactant; and (ii) at least one C6 to C22 fluorinated surfactant);
- column 2, lines 2-5 (a mixture of *specified surfactants*, wherein the surfactants are present in a specified ratio in the ink composition);
- column 4, lines 39-45 (a mixture of surfactants *consisting essentially of* (i) at least one siloxane surfactant; and (ii) at least one C6 to C22 fluorinated surfactant); and
- column 6, line 42 to column 7, line 47 (C6 to C22 fluorinated surfactants).

Appellant respectfully submits that one of ordinary skill in the art would not have modify the surfactant system of Held as suggested by Examiner Berman given that the teaching of Held requires a specific surfactant system consisting essentially of (i) at least one siloxane surfactant, and (ii) at least one C6 to C22 fluorinated surfactant. Further, Appellants respectfully submit that one of ordinary skill in the art, given the teaching of Held alone, or in combination with Savu, would not have modified the surfactant system of Held as suggested by Examiner Berman.

**Rejection of Claims 1-17, 19-29 and 33 Under 35 U.S.C. §103(a)
In View Of Caiger In Combination With Savu**

As discussed above, Appellants respectfully submit that one of ordinary skill in the art would not have sought out the teaching of Savu given the teaching of Caiger. Further, even if one of ordinary skill in the art was lead to the teaching of Savu, the teaching of Savu teaches away from the use of the disclosed C4 fluorinated surfactants in ink jet ink compositions due to their foam-generating properties.

**Rejection of Claims 31-32 Under 35 U.S.C. §103(a) In View Of Held or Caiger In
Combination With Savu and Further In View Of Adkins**

For at least the reasons given in Appellants' January 09, 2004 Appeal Brief and the reasons given above, the rejection of claims 31-32 under 35 U.S.C. §103(a) as being unpatentable over Held or Caiger in view of Savu, and further in view of U.S. Patent No.

6,113,679 to Adkins et al. (hereinafter, "Adkins") should be reversed.

Response To Arguments Raised In Examiner's Answer

In the March 24, 2004 Examiner's Answer, Examiner Berman continues to argue that C4 fluorinated surfactants such as those disclosed in Savu and C6 to C22 fluorinated surfactants such as those disclosed in Held and Caiger are "analogous surfactants in terms of chemical structure and surfactant properties as known in the art." See, the March 24, 2004 Examiner's Answer, page 8, lines 1-4. As discussed in Appellants' Appeal Brief, the teaching of Savu clearly distinguishes perfluorobutanesulfonyl surfactants from other fluorinated surfactants by (i) the chemical structure of the surfactants, and (ii) the chemical properties of the disclosed surfactants. There is no suggestion in the teaching of Savu (or any other art of record) that C4 fluorinated surfactants are "analogous in structure" or "have the same function" as C6 to C22 fluorinated surfactants disclosed in the teachings of Held and Caiger.

Appellants respectfully submit that the art of record supports the position that C4 fluorinated surfactants are not "analogous in structure" and do not "have the same function" as C6 to C22 fluorinated surfactants. For example, as discussed above, the teaching of Held restricts fluorinated surfactants for use in the disclosed surfactant systems to C6 to C22 fluorinated surfactants as oppose to C4 to C22 fluorinated surfactants or any other class of fluorinated surfactants. Further, the teaching of Savu limits suitable fluorinated surfactants to those having fluorinated moieties of three or four carbon atoms as oppose to any number of carbon atoms. Clearly, the art distinguishes between C4 fluorinated surfactants and C6 to C22 fluorinated surfactants due to their differences in chemical structure and properties.

Beginning on page 8, line 4 of the March 24, 2004 Examiner's Answer, Examiner Berman argues

WO'873 teaches that the disclosed polymeric C4F9-group containing fluorochemical polyoxyalkylene surfactants of formula I or formula II are equivalent to the surfactants of formula I and/or can be used in admixture with the surfactant of formula I, thus WO'873 is considered to teach that any of the disclosed fluorinated surfactants containing a C6 to C22 perfluoralkyl group, sulfonamide groups and polyether groups would be useful surfactants in the ink compositions disclosed by Held or by Caiger et al.

Appellants are not exactly sure what Examiner Berman is arguing in the above-referenced passage. Examiner Berman appears to suggest that Savu (WO'873) discloses or suggests mixtures of the disclosed C4 fluorinated surfactants with C6 to C22 fluorinated surfactants. However, Appellants cannot find any disclosure in the teaching of Savu that suggests the use of the disclosed C4 fluorinated surfactants in a mixture containing a C6 to C22 fluorinated surfactant.

Examiner Berman argues that the teaching of Savu provides motivation to one of ordinary skill in the art to use the disclosed C4 fluorinated surfactants in the ink jet ink compositions of Held or Caiger due to the language in Savu comparing perfluorobutanesulfonyl-containing surfactants (PBSF) with perfluorooctanesulfonyl fluoride (POSF) surfactants. As discussed in Appellants' Appeal Brief, the comparison of perfluorobutanesulfonyl-containing surfactants (PBSF) with perfluorooctanesulfonyl fluoride (POSF) surfactants in the teaching of Savu is not comparing the use of one surfactant in an ink jet ink composition versus the use of the other surfactant in an ink jet ink composition. As discussed above, and central to Appellants' arguments, is the fact that the teaching of Savu is not concerned with ink jet ink compositions, surfactants for use in ink jet ink compositions, or chemical properties of surfactants for use in ink jet ink compositions.

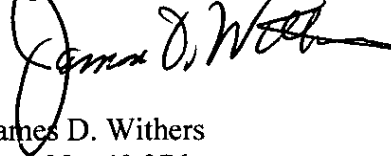
Appellants respectfully submit that the art of record fails to suggest to one of ordinary skill in the art or provide motivation for the proposed modification of the teachings of Held and Caiger as proposed by Examiner Berman. Appellants respectfully submit that the only motivation for substituting a C4 fluorinated surfactant, such as those disclosed in the teaching of Savu, for a C6 to C22 fluorinated surfactant disclosed in the ink jet ink compositions of Held or Caiger has been gleaned from a review of Appellants' invention, not from what is being taught or suggested in the art of record.

CONCLUSION

For at least the reasons given above, Appellants respectfully submit that none of the references relied upon by Examiner Berman make obvious the claimed invention embodied in Appellant's claims 1-33. Accordingly, all of the above rejections should be reversed.

Please charge any additional fees or credit any overpayment to Withers & Keys, LLC,
Deposit Account No. 503025.

Respectfully submitted,



James D. Withers
Reg. No. 40,376
678-565-4748

WITHERS & KEYS, LLC
18 Atlanta Street
McDonough, Georgia 30253

Atty. Docket No. 10002.0008US01